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SUBJECT: Explanation of Bull Evaluation and Daughter List (February 1997)

TO: Bull Owners

FROM: H.D. Norman, Research Leader, AIPL

H. Duane Norman

The bull evaluation and daughter (BEAD) list for February 1997 reports genetic evaluations and other information from the animal model system. Evaluated traits include milk, fat, and protein yields and fat and protein percentages. Individual daughter information is not reported if a bull had 100 or more daughters in his previous evaluation. All yield values are averages of 305-day, 2-times-a-day lactation records standardized for age, month of calving, and previous days open. All lactation records of fewer than 305 days have been projected.

Economic values assigned to PTA's in the milk and fat dollars index (MF\$) and in the milk, fat, and protein dollars index (MFP\$) were based on a milk price of \$12.30 per hundredweight of milk with 3.5% fat, 3.2% protein, and differentials of 8.0 cents for fat and 20.0 cents for protein. These values are a prediction of price relationships that will apply when cows from this years matings are in milk. We do not expect to change them until the base change in 2000. Thus

$$\text{MF\$} = \text{\$.095(PTA Milk)} + \text{\$.80(PTA Fat)}$$

$$\text{MFP\$} = \text{\$.031(PTA Milk)} + \text{\$.80(PTA Fat)} + \text{\$2.00(PTA Protein)}$$

$$\text{NMS\$} = \text{.7(MFP\$)} + \text{\$11.30(PTA PL)} - \text{\$28.22(PTA SCS - breed average SCS)}$$

For Ayrshires, Brown Swiss, Holsteins, Milking Shorthorns, and Red and Whites,

$$\text{CYS\$} = -\text{\$.002218(PTA Milk)} + \text{\$1.9960(PTA Fat)} + \text{\$1.7299(PTA Protein)}$$

For Guernseys and Jerseys,

$$\text{CYS\$} = -\text{\$.002218(PTA Milk)} + \text{\$.80(PTA Fat)} + \text{\$3.1876(PTA Protein)}$$

Average first lactation SCS for cows born in 1990 were:

Ayrshires	3.15	Holsteins and Red and Whites	3.20
Brown Swiss	3.22	Jerseys	3.30
Guernseys	3.35	Milking Shorthorns	2.88

The BEAD list may include daughters with the following categories of information:

- 1) **No Evaluation:** Only identification, birth, herd, and last lactation information reported.
- 2) **No contribution to bull:** Daughter has evaluation based on later lactation records only; LACTATIONS INCLUDED FOR BULL and CONTRIBUTION TO BULL column blank.
- 3) **No lactations:** Daughter has evaluation based on parents and progeny only; HERD CODES, LAST LACTATION, and LACTATIONS INCLUDED FOR BULL columns blank; birth date (if present) includes only birth year.

4) **No lactations included in evaluation:** Daughter has evaluation based on parents and progeny only, or she has only paternal sisters as management group mates; LACTATIONS INCLUDED FOR BULL columns blank.

5) **Complete information:** Daughter had a first lactation record included in the evaluation and contributed to sires's evaluation; information reported in all columns.

Changes in bull ownership or owner addresses should be reported to the breed associations.

Detailed explanations of information on the BEAD List follow:

BASE: Genetic base identified by breed code and year of implementation (for example A95); 1995 base established by setting average of evaluations of cows born in 1990 to 0.

CODES: Status of record submitted to USDA:
* . . . Change in pedigree information after 2nd test following entry into herd
N . . . All records not usable, including 1st lactation records in progress with less than 40 days in milk.
R . . . Record from last lactation is a record in progress.
A . . . First lactation record is from a testing plan not approved for release of genetic evaluation. PTA and contribution to bull are not displayed for these cows.

CONTRIBUTION TO BULL:

MILK, COMP:

Contribution of individual daughter to sire's evaluation; 2 times PTA of daughter minus PTA of mate (dam of daughter).

WT:

Weight to indicate influence of daughter contribution on sire's evaluation:

1.0 . . Daughter's dam evaluated

0.7 . . Daughter's dam unknown or not evaluated

DAUGHTER YIELD DEVIATIONS:

Weighted average of daughter's yield deviations adjusted for merit of their dams.

FIRST LACTATION:

AGE:

Average daughter age at first calving.

DIM:

Average days in milk for 1st lactations of daughters.

RIP%:

Percentage of records in progress for 1st lactations of daughters.

HERD CODES:

DHI herd codes of first and last records received by USDA whether records were usable or not; last herd code follows immediately below first herd code (if only one code listed, first and last herds are the same).

HERDS:

Number of herds for 1st lactation records included in evaluation.

LAST LACTATION:

Pertains to last record received by USDA whether usable or not.

MGT GRP NO.:

Average number of cows in management group; averaged over lactations for cows and over daughters for bulls.

MOST DAUGHTERS:

Herd code and number of daughters for herd with most 1st lactation records included in evaluation.

PARENT AVERAGE:

Average Predicted Transmitting Ability of bull's sire and dam.

PTA:

Predicted Transmitting Ability; prediction of an animal's genetic transmitting ability.

REL:

Reliability; measure of evaluation's accuracy (amount of information in evaluation) that includes contributions from both parents and all progeny.

TRM CD:

Termination Code:

(blank) Normal termination by dry date or 305 days

1 More than 75 days between sample days.

2 Sold for dairy purposes

3 Sold for low yield.

4 Sold for reproductive problems.

5 Sold for disease, injury, or unspecified reason.

6 Died.

7 Sold for mastitis.

8 Record ended by abortion.

YIELD DEV.:

Weighted average across a cow's lactations of difference between her yield and estimates of effects of her management group, sire interaction, and permanent environment.